Energy Efficiency Program Best Practices

Energy efficiency can be a cost effective, reliable energy resource. There have been large-scale energy efficiency programs in some parts of the country since the late 1980's. These programs have a history of proven savings in megawatts, megawatt hours, therms and on customer bills, and these programs show that energy efficiency compares very favorably to supply side options. Despite proven results, barriers to large-scale programs still exist in parts of the country. These barriers include:

- Uncertainty about the reliability of energy efficiency
- Lack of knowledge about the full potential of energy efficiency resources
- Lack or loss of institutional knowledge and internal capabilities to run large-scale programs
- Lack of properly aligned incentives for utilities.

The Program Best Practices Working Group paper summarizes some of the key findings from programs that have been operating successfully for a number of years and addresses many of these barriers by providing key best practices for the development and successful implementation of large-scale energy efficiency programs.

Key Findings

Key findings from the programs that have been run from the late 1980's include:

- Energy efficiency can be delivered at a cost significantly less than the cost of new supply – on the order of half the cost of new supply in many cases – and contributes to an overall lower cost energy system for rate payers.
- Well funded, well-designed electricity savings programs are being funded at about 1 to 3 percent of revenue and well-designed natural gas savings programs, though more limited, are being funded at 0.5 percent of revenues.
- Well funded, well-designed efficiency programs are revducing electricity and natural gas load-growth by about half per year, assuming annual load growth of 2 percent per year for electricity and 0.9 percent per year for gas, common figures for much of the United States.
- Many states—including states that have been aggressively pursuing efficiency—have conducted studies to estimate the availability of cost-effective energy savings, finding savings of 10% or more over a 10 year period and 20% or more over a twenty year period.
- Energy efficiency programs are being successfully operated across many different contexts; regulated and unregulated markets; utility, state, or third-part administrator; investor-owned, public and cooperatives; gas and electric utilities.
- Energy efficiency programs are being funded through a variety of mechanisms including system benefit charges, energy efficiency portfolio standards, and resource planning efforts.
- There are cost-effective energy efficiency programs for electricity and natural gas including programs that can be specifically targeted to reduce peak load.
- There are effective energy efficiency program models for gas efficiency and electricity efficiency, targeting all customer classes; for getting started; and for evolving into a large-scale, mature efficiency program.
- Energy efficiency programs benefit from established and stable regulations, clear goals and comprehensive evaluation.

Lessons learned from the energy efficiency programs operated since inception of large-scale utility programs in the late 1980's are presented below and cover key aspects of energy efficiency programs planning, program design, program implementation, and program evaluation.

Summary Best Practices

1. **Leadership** – Change starts with leadership.
2. **Know your Potential** – Making the initial justification (the business case) for and designing strong energy efficiency programs benefit from a formal assessment of the energy efficiency resource potential in a region and an understanding of the costs and strategies necessary to capitalize on that potential. Potential studies provide a good initial framework to develop cost effective programs; at this juncture, there are many existing studies that can be drawn from to limit the extent of such an effort.
    - **Conduct a Potential Study prior to initially starting programs**
    - **Outline what can be accomplished at what costs**
    - **Include all customer classes**
3. **Create an Energy Efficiency Plan –** An energy efficiency plan can help energy efficiency compete with generation, transmission, and distribution and justify program funding. A plan with long-term goals illustrates the longer term benefits that can result from energy efficiency and similarly helps the energy efficiency resource to be valued on longer term benefits. If the utility is responsible for generation planning, energy efficiency should be considered in the generation or resource planning process.
    - **Develop a plan with medium and long-term energy savings goals designed to capture a significant portion of the cost-effective potential**
    - **Update the plan on a regular basis, consistent with existing regulatory schedules**
    - **Use cost-effectiveness tests for program measures that are consistent with long-term planning**
    - **Outline program funding necessary to meet program goals**
    - **Have programs for all key customer classes**
    - **Involve stakeholders in the process to avoid prolonged proceedings and improve program design**
4. **Be Sure You Can Count the Negawatts** – In order to treat energy efficiency as a resource, good, comprehensive evaluation of results is essential.
    - **Plan ahead and budget for evaluation**
    - **Prioritize evaluation resources where the risks are highest**
    - **Don't skimp on the tracking system**
    - **Don't let measurement drive programs either – allow for education, outreach and innovation**
5. **Make it a Mission** – The most successful programs are fully incorporated in a utility's goals and compensation system, financial and other business practices. The most successful programs need the full support of upper management and the resources to get the job done.
    - **Tie achievement of energy efficiency goals to compensation and corporate goals**
    - **Allocate resources – programs will not succeed without appropriate resources**

6. **Start with Proven Models** – There is over 15 years of history with large-scale energy efficiency programs. Utilities or new third party administrators starting out do not need to reinvent the wheel. The use of existing market transactions and utility marketing channels reduce transaction costs for the utility and increase customer trust in the program. The use of national brands such as Energy Star also reduces costs and increase participation.
    - **Start simple and add complexity over time**
    - **Use Energy Star and other known programs as a basis**
    - **Keep participation simple**
    - **Work with program allies who can be a key to success**
    - **Use existing customer channels and brands—customers trust programs sponsored by their utility**
    - **Work with existing market channels to reduce transaction costs and increase uptake**
    - **Take advantage of opportunities to educate customers on no cost opportunities for conservation**
7. **Leverage Outside Funding and Financing –** There are many ways to leverage outside resources and private sector financing.
    - **Build upon ESCO and other financing program options**
    - **Reduce incentives over time as market conditions change**
    - **Leverage State and Federal tax credits where available**
    - **Leverage manufacturer and retailer resources through cooperative promotions**
8. **Involve Stakeholders in the Process** – Energy efficiency programs work best with the support of key stakeholders. Well run stakeholder processes can facilitate that support.
    - **Have a well organized process for best results**
    - **Define boundaries for stakeholders**
9. **Refine Programs and Communicate Results** – Use evaluation results to improve programs and communicate success.
    - **Frequently evaluate new programs**
    - **Always look for ways to improve programs**